NATIONAL PARK SERVICE
ENVIROFACTS
3/3/99

National Park Service
Hazardous Waste Management &
Pollution Prevention Team
Washington DC 20240
(202)565-1240(x3)

WASTE PAINT/COATINGS MANAGEMENT

DEFINITIONS

Coating: Paint, varnish, stain, sealant or other treatment applied to surfaces such as wood, plastic, metal, and plastic for maintenance or aesthetic purposes. Coatings generally consist of solids in a carrier made of water and/or solvent.
Solvent-Based Coating: Coatings which contain primarily volatile organic compounds (VOCs) as the carrier.
Water-Based Coating: Coatings which contain mostly water as the carrier, but may also contain chemicals such as glycol ethers, alcohols, and other water soluble VOCs.
Flammable: Material which has a flash point of less than 100 deg. F.

APPLICABLE STANDARDS

Federal: Waste from solvent-based coatings is typically hazardous, and its management is regulated by the Resource Conservation and Recovery Act (RCRA), 40 CFR 260-265. The use of large quantities of solvent-based coatings may also trigger various air quality regulations. In addition, storage requirements in OSHA (29 CFR 1910.1060 may apply if coatings are flammable liquids).

State: Most state rules for management of coating wastes will be consistent with the federal regulations, but State and Local air quality rules may affect solvent-based coating use in areas where ground-level ozone pollution is a problem.

HANDLING & STORAGE

If solvent-based coatings must be used, follow the health and safety warnings provided on the MSDS. In addition, reduce waste by using the appropriate applicator (i.e. properly sized brush). Keep the container closed as much as possible during use to minimize air emissions and try to minimize excess inventory that may exceed shelf life (and become waste) by purchasing only the amount which is expected to be used in the next 6-12 months.

Read the label or MSDS of each solvent-based product for storage directions. Store flammable materials away from heat or combustion equipment. Based on the quantity of flammable liquids stored, 29 CFR 1910.106 may require specific guidelines for the park. These can include special ventilation and dispensing procedures.

Remember that water-based coatings and cleaners may still contain VOCs or other chemicals. Always confirm that they are safe for the particular use. Even though their waste may not be hazardous, it may require special treatment.

RECYCLING/DISPOSAL

Solvent-based coating waste (including thinners and cleaners) should be treated as a hazardous waste. In addition, extreme care should be taken when removing old coatings, as they may contain lead compounds. Do not mix waste from solvent-based coatings with other wastes.

Used applicators, brushes, rags and containers that contain only a dry residue from the coating are usually not considered hazardous waste and can be reused or disposed of with other refuse. If the materials still contain free flowing solvent than they should be handled as liquid and/or hazardous waste.

SPECIAL TOPICS

Water-Based Versus Solvent-Based Coatings

Solvent-based coatings were once used almost exclusively for industrial, commercial, and household applications. With the advent of stricter air emissions rules and waste management regulations, as well as general environmental awareness and health and safety concerns, coating manufacturers have reduced or removed solvents in their products. It is recommended that solvent-based coatings be avoided in applications where an alternative (water-based) coating is available. In addition, the use of solvent-based coatings can be reduced by changing the application method to one which uses water-based coating, or eliminating coating use altogether, when possible.

Water-based coatings include latex paints and other coatings designed with water as the primary carrier for the coating solids. As a result, using water-based coatings usually reduces or eliminates the use of solvent-based thinners and cleaners.

Remember that even though water-based coatings are safer and less hazardous than solvent-based coatings, they are not completely safe. Water-based coatings may have a VOC content as high as 10 to 15 percent by weight.

Typical Solvent-Based Coatings

The following list includes examples of potentially solvent-based coating products:

- Wood varnish or stain
- Polyurethane
- Wood sealers or water repellent products
- Rust-preventing paint
- Aerosol spray paint
- Marine coatings
- Automotive paint
- Paint thinner
- Mineral spirits
- Architectural coatings for historic structures
- Metal coatings
- Coatings for cold weather applications
- Pavement markings

POLLUTION PREVENTION

Parks should make an effort to reduce their use of solvent-based coatings and only purchase the amount needed for each project. Always try to obtain a Material Safety Data Sheet (MSDS) from the supplier of these products. The MSDS gives important information about the contents, hazards, and proper use and handling of the coatings. When purchasing these products in "household" quantities (i.e., less than 5 gallons) at a hardware or retail store, look for flammability warnings or "fast drying" claims. These are common indicators of a high solvent content.

ENVIROFACTS X-REFERENCES

- Environmental Training
- Hazard Communication
- Spent Solvent Management
- Maintenance Wastewater Management
- Lead-Based Paint Management
- Used Oil Management

WASTE COATINGS MANAGEMENT CHECKLIST

Checklist Item	Notes
1. Verify that technical data sheets or MSDSs for the coatings used at the park have been obtained and their contents have been determined.	
2. Confirm that alternatives to solvent-based coatings (water-based or no coating at all) have been investigated and implemented whenever feasible.	
3. Ensure that excess inventory and waste of all coatings, including water-based products that contain VOCs are minimized.	
4. Confirm that solvent-based coating wastes are being treated as hazardous. Check that these wastes are not mixed in with other wastes.	
5. Make sure that the potential for lead is being assessed before removing old paint and that paint removal and disposal is being handled accordingly.	
6. Verify that solvent-based coatings, thinners, and cleaners are being handled and stored safely, and in accordance with 29 CFR 1910.106 (if applicable).	